



# FORCEnet Architecture & Standards

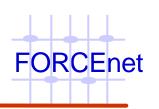
COG

18 November 2004

Mr. Charlie Suggs SPAWAR Code 052



## **Agenda**



### What is FORCEnet?

- Background
- FORCEnet "Problem to be solved"
- Roles and Responsibilities
- Architecture Products
- Summary



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### What is FORCEnet?

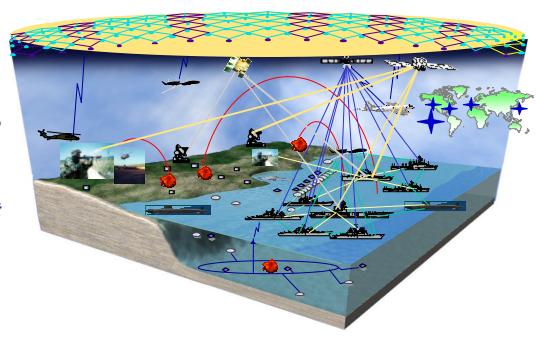


Network Centric Warfare is the theory.

Net-Centric Operations is the concept.

FORCEnet is the process of making the theory and concept a reality.

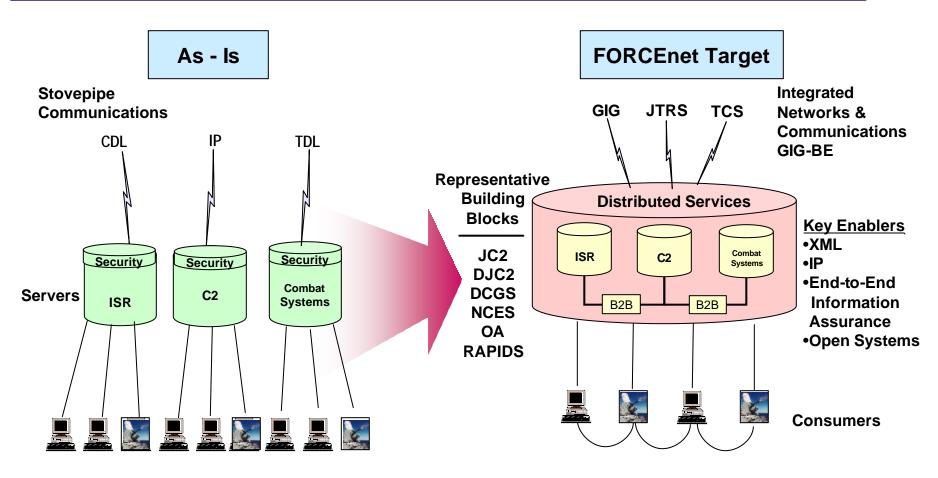
"FORCEnet is the operational construct and architectural framework for Naval Warfare in the Information Age which integrates Warriors, sensors, networks, command and control, platforms and weapons into a networked, distributed combat force, scalable across the spectrum of conflict from seabed to space and sea to land."\*



\*CNO's Strategic Study Group - XXI definition from 22 July 02 CNO Briefing



## Push to a Common Environment FORCEnet

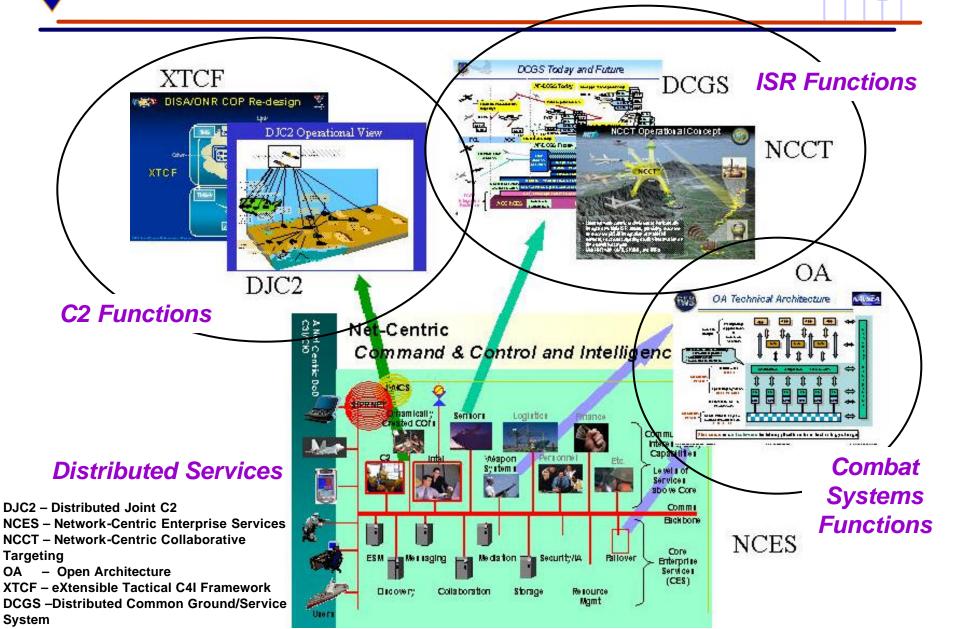


Clients



### **Distributed Services Born Joint**

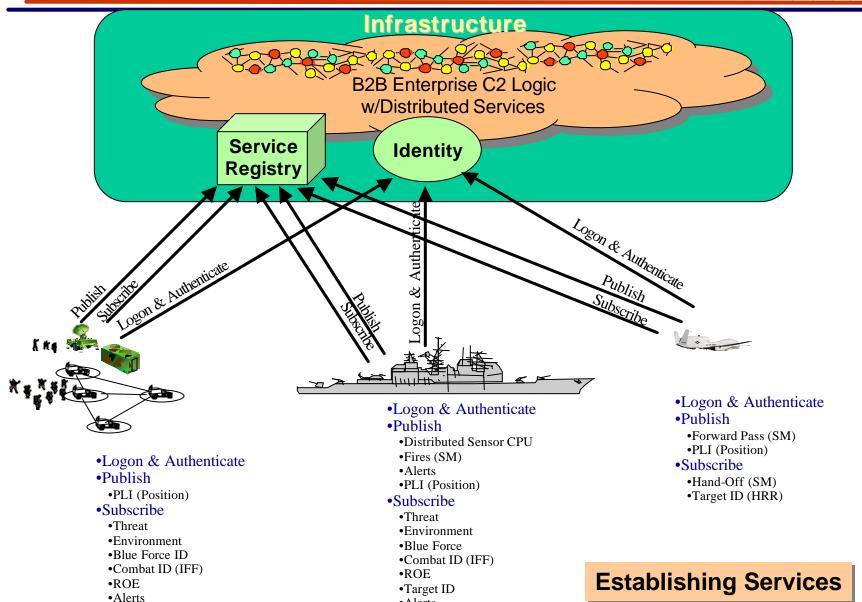






## **Composeable Warfighting: Overland Cruise Missile Defense (example)**



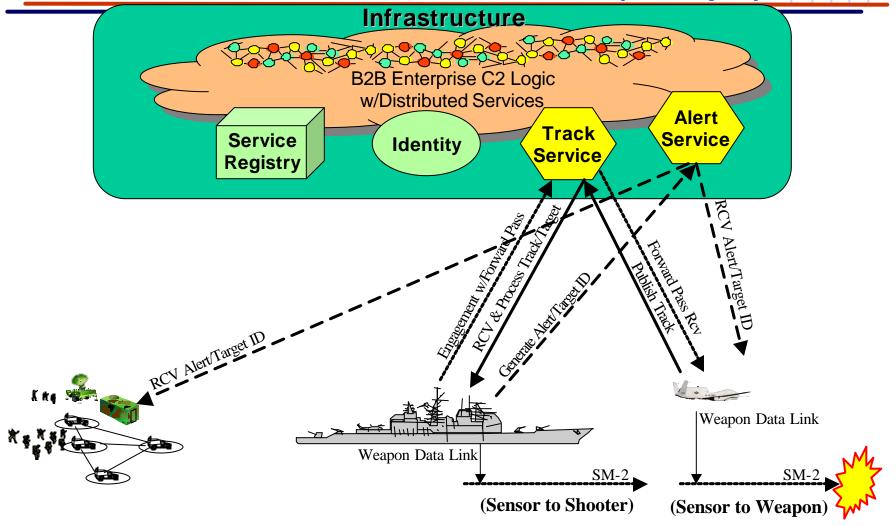


Alerts



## Composeable Warfighting: Overland Cruise Missile Defense (example)



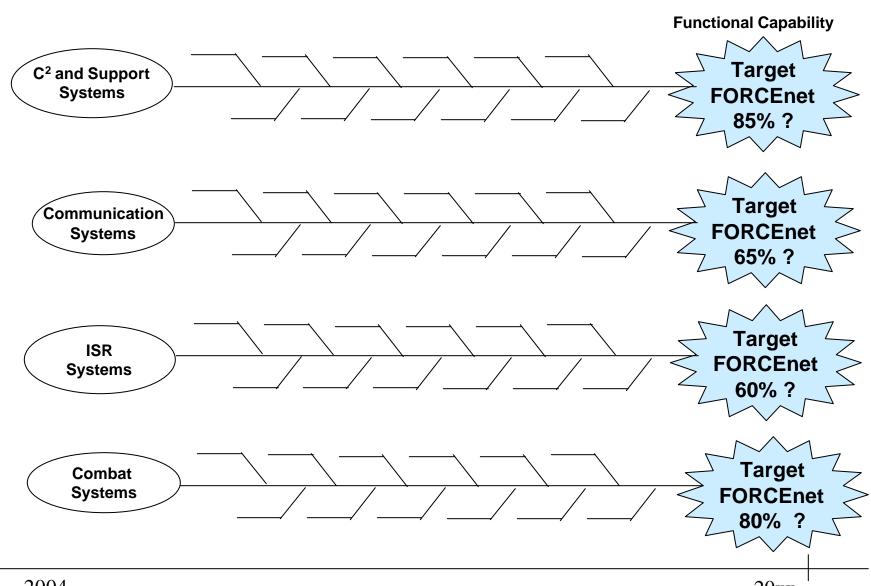


**Service Delivery** 



## What problem are we trying to solve?

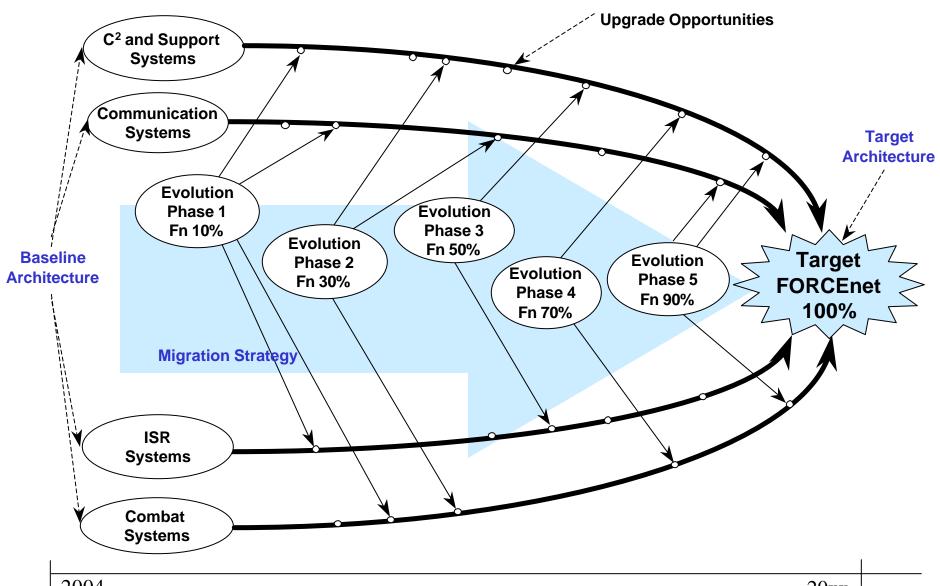






### **What Needs To Be Done**

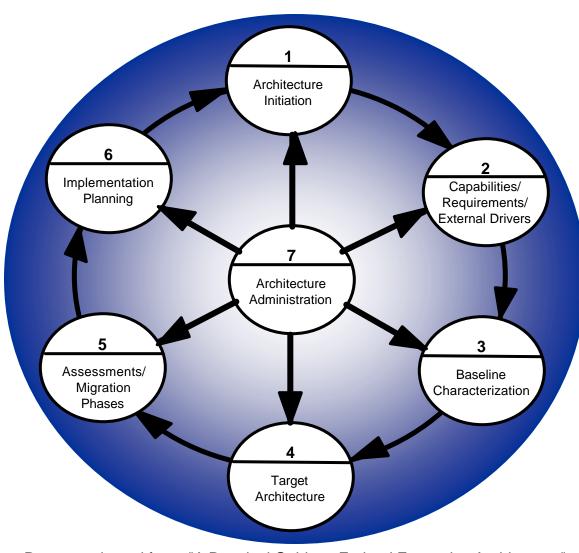






## **FORCEnet Development Process**





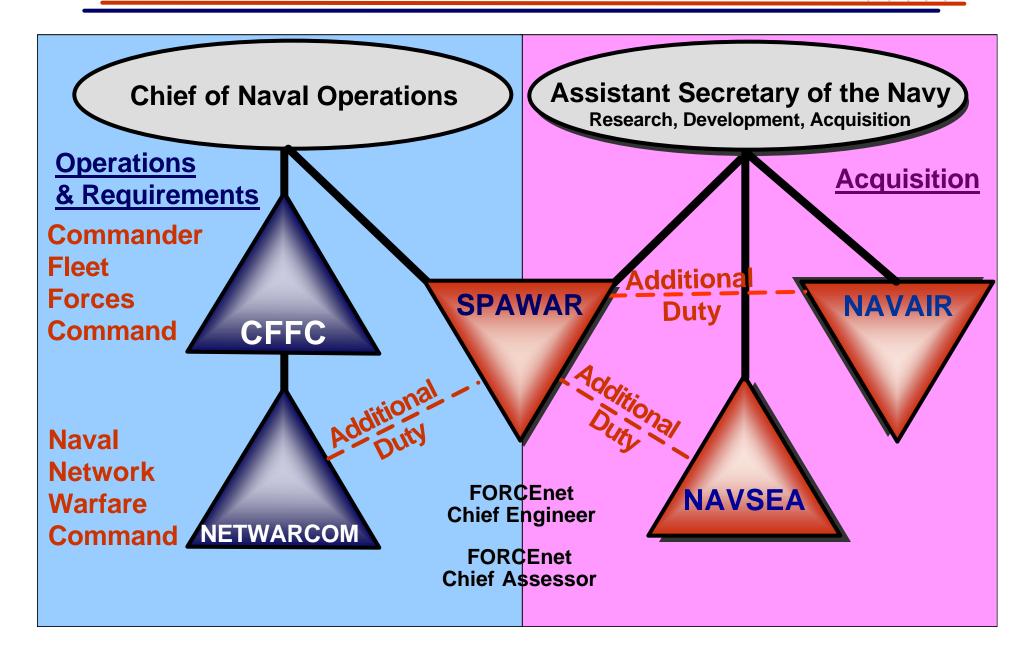
Process adapted from "A Practical Guide to Federal Enterprise Architecture" by Chief Information Officer Council Version 1.0 Feb 2001

Statement A: Approved for public release; distribution is unlimited (4/20/04)



## SPAWAR FORCEnet CHENG Role as directed by CNO







## SPAWAR C4ISR CHENG Role as directed by ASN RDA



R112123ZOCT02

SUBJ/REALIGNMENT OF THE OFFICE OF THE SECRETARY
OF THE NAVY FOR RESEARCH, DEVELOPMENT AND
ACQUISITION, SYSCOMS AND PEOS//

PARA 4. ...COMMANDER SPAWARSYSCOM WILL BE ADDU AS THE C4I CHIEF ENGINEER TO ALL THE OTHER SYSCOMS AND WILL HAVE OVERSIGHT OF ANY C4I ENGINEERING RELATED ACTIVITY. HIS PRIMARY FUNCITON IS TO ENSURE THAT ALL C4I SYSTEMS, EVEN THOSE RELATED TO COMBAT OR PLATFORM SYSTEMS ARE DEVELOPED AS PART OF A COHERENT C4I ARCHITECTURE.



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## **Purpose for Architectures**



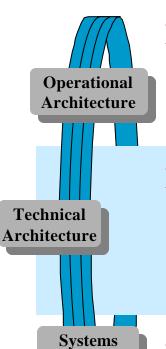
- Architectures are used to describe
  - What exists today plus planned/funded (Baseline)
  - What should exist in the future (Target)
- What will be based on what is (exists today) and what should be (future Target) involves decision making by:
  - Warfighters
  - Resource Sponsors
  - Acquisition and Technology managers
  - System Developers

Architectures provide the information needed to support the decision making process



### **Basic Architecture Components**

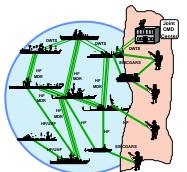




Architecture

- ➤ Operational Architecture (OA) View describes "WHAT" is to be built- it identifies process and information requirements.
- ➤ Systems Architecture (SA) View describes "HOW" the process and information requirements identified in the OA are implemented provides both functional and physical descriptions.
- Technical Architecture (TA) View identifies the "BUILDING CODE" (Standards) to be used it the development.

**One Architecture** 

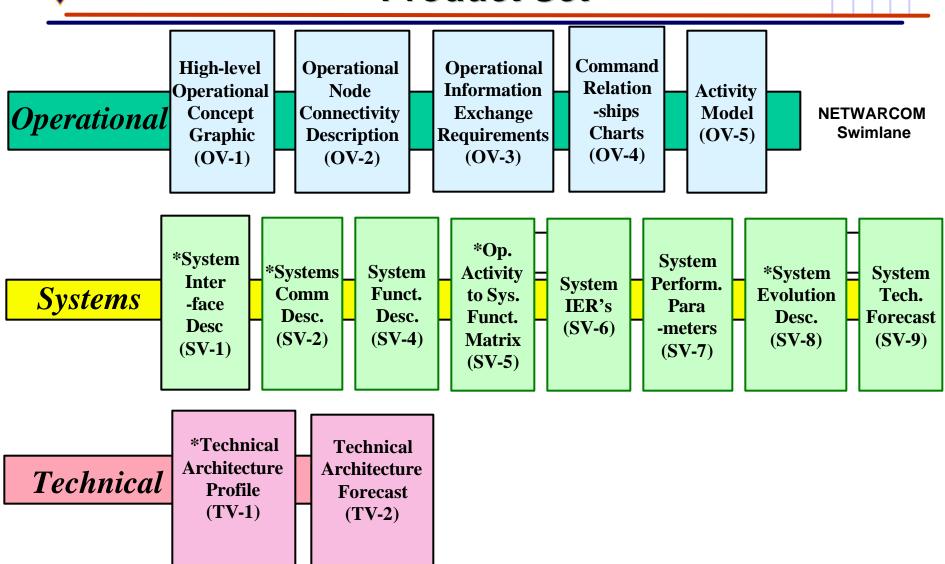


Three Views



## DoD Architecture Framework Product Set





<sup>\*</sup> Selected Products to be produced in FY05



## FORCEnet Architecture & Standards Volume I



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#### 1.0 FORCEnet Definition

- 1.1 FORCEnet Objective-Transformation
- 1.2 Architecture Overview

#### 2.0 Background

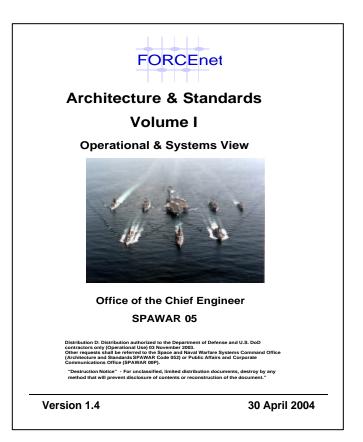
- 2.1 Sea Power 21 Pillars
- 2.2 FORCEnet Precepts
- 2.3 FORCEnet Architectural Scope
- 2.4 FORCEnet Development Process
- 2.5 FORCEnet Architecture Approach

#### 3.0 FORCEnet Requirements

- 3.1 Operational View (OV-1)
- 3.2 Initial Capabilities Document (ICD)
- 3.3 Fleet Capability Needs

#### 4.0 FORCEnet Drivers

- 4.1 DoD Drivers
- 4.2 Naval
- 4.3 Commercial Technology Update
- 4.4 Allied/Coalition Interoperability





## FORCEnet Architecture & Standards Volume I (Cont)



#### 5.0 FORCEnet Functional Architecture

- 5.1 DoD Architecture Framework Document
- 5.2 Mission Capability Packages
- 5.3 Communications and Networks
- 5.4 Intelligence, Surveillance, and Reconnaissance (ISR)
- 5.5 Distributed Services, Common Operational and Tactical

#### 6.0 Implementation Reference Mission

- 6.1 SEA STRIKE
- 6.2 SEA SHIELD
- 6.3 SEA BASE
- 6.4 FORCEnet

#### **Appendices**

Appendix A AV-1

Appendix B ICD – FORCEnet Capabilities

Appendix C FORCEnet Service Category Definitions

Appendix D Allied and Coalition FORCEnet Architecture

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Appendix F FORCEnet System Descriptions

Appendix G SP-21 Pillar POR Standards Compliance

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## FORCEnet Architecture & Standards Volume II



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- 2.3 Sensor Systems Interface Standards
- 2.4 Precision Navigation and Time (PNT)
- 2.5 Human Systems Integration Standards (HSI)
- 2.6 Information Assurance Standards
- 2.7 Information Transfer Standards
- 2.8 Information Modeling, Metadata and Information Exchange Standards
- 2.9 Unique ISR Standards

#### **Appendices:**

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- Appendix B Standards Specs and Reference Docs
- Appendix C EMC/EME Guidance
- Appendix D FORCEnet Standards Comparison
- Appendix E Distributed Services Profile
- Appendix F FORCEnet Comms and Net Profile
- Appendix G Allied and Interoperability Compliance Profile
- Appendix H ISR Compliance Profile
- Appendix I Node Information Services
- Appendix J Net-Centric Enterprise Solutions for Interoperability (NESI)



## FORCEnet Architecture & Standards Volume II

#### **Technical View**



#### Office of the Chief Engineer SPAWAR 05

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Other requests shall be referred to the Space and Naval Warfare Systems Commo Office
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Version 1.4

30 April 2004



## **Agenda**

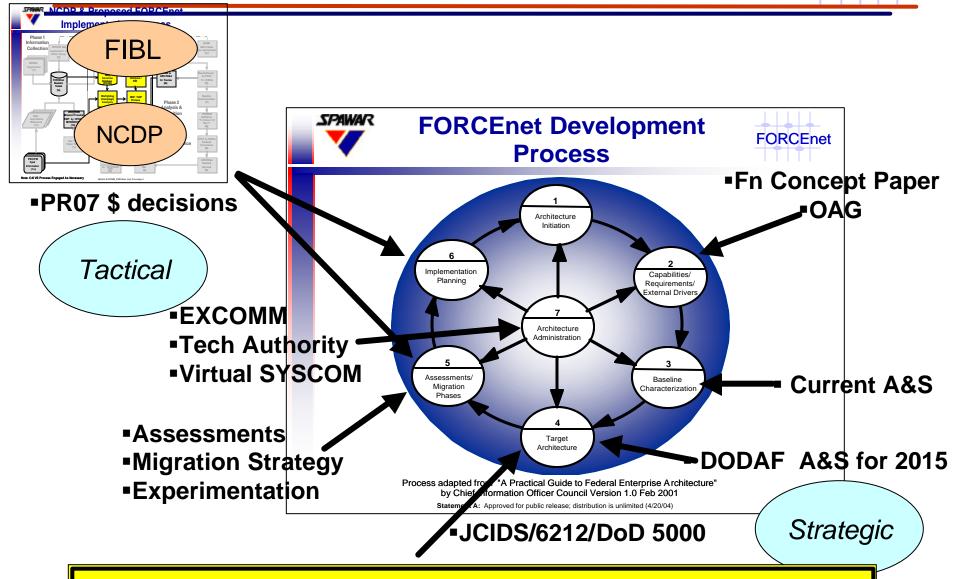


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## **Summary FORCEnet Process Bringing it all together...**





**FORCEnet Architecture & Standards 2015 Target Architecture = Due 2005/2006**